

# A SYSTEM AND A METHOD FOR CHECKING LOCK-STEP CONSISTENCY BETWEEN AN IN CIRCUIT EMULATION AND A MICROCONTROLLER

## 5 ABSTRACT OF THE DISCLOSURE

A system and a method for checking consistency of a lock-step process while debugging a microcontroller code. A host device copies a partially copies a production microcontroller in an ICE (in-circuit emulation) to form a virtual microcontroller. The virtual microcontroller and the microcontroller

10 simultaneously and independently run a microcontroller code for debugging purposes. The microcontroller residing on a test circuit includes a first memory and the virtual microcontroller residing in the ICE includes a second memory. A host computer copies a content of the first memory and a content of the second memory in the host computer memory when the execution of the code is halted.

15 Software in the host device compares the content of the first memory and the content of the second memory for consistency. In case of a disparity between the content of the first memory and the content of the second memory, a user traces the execution of the code in a trace buffer residing in the ICE and debugs the faulty code accordingly.

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